



Description

The S32A is a full-featured, 32-amp DC-DC converter that provides the space-saving advantages of a Dual-in-line Packaging (DIP) form factor. Ideal for powering today's ASICs, DSPs and microprocessors, the S32A features superb dynamic response, remote sense and overcurrent protection. The programmable output allows the customer to standardize on a single part for any output from 1.25 to 3.5 volts. Using a standard pin-out, the S32A packs over 100 watts of power into a minimal 1.5 in² of board space.

Features

- 32-amp Output Current
- 90 % Efficiency
- Nonisolated Output
- Remote Sense
- Short-circuit Protection with auto-restart
- Fast Transient Response
- Programmable Output
- Output Precharge Capability

Common Specifications

	Min	Nom	Max	Units	Notes
Input					
Voltage	4.5	5	5.5	Vdc	4.75 V _{in} startup
Bias Voltage	10.8	12	13.2	Vdc	
Bias Current			100	mA	
Control Voltage					
High = On	2.4			Vdc	
Low = Off			0.4	Vdc	
Control Current		1		mA	
Output					
Current	0		32	A	
Current Limit	40	50	60	A	
Voltage Setpoint Accuracy			±2	%V _{nom}	
Line Regulation		±10		mV	
Load Regulation		±10		mV	
Ripple / Noise	50	100	150	mV pp	
Dynamic Response					
16-32 A load		200		mV	Δi/Δt=3 A/μs
		100		μs	Δi/Δt=3 A/μs
32-16 A load		200		mV	Δi/Δt=3 A/μs
		100		μs	Δi/Δt=3 A/μs
Temperature Regulation			±0.02	%V _{out} /°C	
General					
Operating Temperature	-25		85	°C	
	-40		125	°C	optional
Storage Temperature	-40		125	°C	
Switching Frequency	200	300	400	kHz	
Efficiency		92		%	I _{out} = 32 A, V _{out} = 3.3 V



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Output Voltage Selection

VID4	VID3	VID2	VID1	VID0	Output	VID4	VID3	VID2	VID1	VID0	Output
0	1	1	1	1	1.30	1	1	1	1	1	N/A
0	1	1	1	0	1.35	1	1	1	1	0	2.10
0	1	1	0	1	1.40	1	1	1	0	1	2.20
0	1	1	0	0	1.45	1	1	1	0	0	2.30
0	1	0	1	1	1.50	1	1	0	1	1	2.40
0	1	0	1	0	1.55	1	1	0	1	0	2.50
0	1	0	0	1	1.60	1	1	0	0	1	2.60
0	1	0	0	0	1.65	1	1	0	0	0	2.70
0	0	1	1	1	1.70	1	0	1	1	1	2.80
0	0	1	1	0	1.75	1	0	1	1	0	2.90
0	0	1	0	1	1.80	1	0	1	0	1	3.00
0	0	1	0	0	1.85	1	0	1	0	0	3.10
0	0	0	1	1	1.90	1	0	0	1	1	3.20
0	0	0	1	0	1.95	1	0	0	1	0	3.30
0	0	0	0	1	2.00	1	0	0	0	1	3.40
0	0	0	0	0	2.05	1	0	0	0	0	3.50

Standard Options

Add option designators to the end of the part number. Example; S32A-5SDAC-Z

Option	Description
Z	-40 °C Operation

Notes

1. The S32A requires a minimum output capacitance of 1,200 μ f for proper operation.
2. A minimum input capacitance of 2,400 μ f is required for proper operation.

